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them not to interfere with their business, but rather afford facilities and conveniencies.

I am, Sir,
&c. &c. &c.
THOMAS CHAMPION, *Master of the Cutlers' Company, Sheffield.*

N° XII.

IMPROVEMENTS IN THE RIGGING OF SHIPS.

The SILVER VULCAN MEDAL *was this Session presented to Lieut.* WILLIAM PRINGLE GREEN, *R. N.,* FOR CERTAIN IMPROVEMENTS IN THE RIGGING OF SHIPS, *Models of which have been placed in the Society's Repository.*

THE unfortunate issue of several naval actions with the Americans during the last war, in which British frigates were captured, first attracted Lieut. Green's attention to the subject. In analysing these, it appeared that a principal cause of the success of the enemy, was the rapidity with which he shot away the rigging, and consequently disabled the masts of his opponent.

The masts of ships are secured in two directions; longitudinally, by means of long ropes called stays, and in a transverse direction by means of other ropes called shrouds, each of which has a loop in the middle which is passed over the head of the mast, while the two ends are fastened to blocks called dead-eyes, fixed on each side the ship opposite to the mast. Each pair of shrouds, therefore, may be considered as forming the sides of an isosceles triangle, of which, the apex is the mast-head, and being in pairs, it necessarily follows, that if one is shot away, its antagonist, or opposite shroud, becomes nearly useless. Lieut. Green, therefore, proposes that the shrouds should be single, and that each should be terminated at top in a strong iron hook, to take hold in an eye fixed in a strap or plate at the mast-head.

Another improvement proposed by the same officer is in the method of slinging the topsail-yards, by fixing to the yard where it comes in contact with the mast, a kind of clasp or crutch, similar to that at present applied to the mizen-boom; which, by half embracing the mast, serves to steady the yard, and to prevent those violent jerks, by which, in blowing weather, men are not unfrequently thrown from the yard into the sea; it has the farther advantage of saving the expense of rolling tackles, besides strengthening the yard in the slings and quarter.

During the last war Lieut. Green commanded a brig-cutter, the two masts of which were secured and rigged in the usual way. He obtained leave to add, at his own expense, a small mizen-mast, for the purpose of submitting his plan to actual experiment; the result of which, as far as it went during the two years that the experiment lasted, was entirely to his satisfaction.

Reference to the Engraving of Lieut. W. P. GREEN'S *Method of fixing the Shrouds to a Mast, fitting Top-sail-yards and Braces.—Plate XVI.*

Fig. 3, *a* and *b*, two square iron straps fitted on the mast head, one above the other; they have three hooks on each side of them to receive the tops of the shrouds, those above are placed so as to alternate with those below, as shown fig. 2, in order to give room for the eyes of the shrouds and let them come sufficiently close.

a and *b*, fig. 1, show the shrouds fixed on the hooks.

Fig. 4, a front view of one of the straps.

Fig. 1, *c c*, the top-sail yard having chocks *d d* to embrace the top-mast half round, and thereby prevent the yard swinging end ways.

Fig. 5 shows a bird's-eye view of part of the yard *c c*, and of chocks *d d*, embracing the mast.

Fig. 1, *e e*, the braces of the top-sail yard; they are fixed at *f*, pass through the blocks *g g* at the yard arms, then through the blocks *h h*, and are secured at *i*.